

# Work Order ID 84686

May-17-12 3:38:46 PM

**\*84686\***

Page 1

Item ID: D3391-025  
Revision ID:  
Item Name: Aft Tube Assembly

Accept

**\*N900040100\***

Setup Start **\*NS1\***  
Stop **\*NS2\***

Start Date: 17/05/2012 Start Qty: 1.00 **\*1\***  
Required Date: 31/05/2012 Req'd Qty: 1.00 **\*1\***

Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: MLJ Date: 12/05/17 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***  
Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	<del>1</del> <del>2</del> <del>3</del>								
100	MORI SEIKI CNC LATHE LARGE	0.00							
<b>*100*</b>									
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	Turn as per Folio FA599 Rev: <u>41</u> & Dwg D3391 Rev: <u>H</u>								
	***scribe batch # on fwd end at 90 degree***								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
<b>*110*</b>									
QC	Memo	0.00							
Quality Control									
111	QC8- Inspect parts - second check	0.00							
<b>*111*</b>									
QC	Memo	0.00							
Quality Control	***INSPECT INSIDE BORE***								

1 Ø  
anm  
12/05/20

1 Ø  
anm  
12/05/20

1 Ø  
anm  
12/05/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Item ID: D3391-025

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
<b>*120*</b>	HAAS CNC VERTICAL MACHINING #1								
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine as per Folio FA 599 Rev: <u>4A</u> & Dwg D3391 Rev: <u>I</u> 2-Debur								
130		0.00							
<b>*130*</b>	QC2- Inspect parts off machine FAI/FAIB								
QC	Memo	0.00							
Quality Control									
140		0.00							
<b>*140*</b>	QC8- Inspect parts - second check								
QC	Memo	0.00							
Quality Control	***INSPECT INSIDE BORE***								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Item ID: D3391-025

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**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

0.00

**\*150\***

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

*SAJ 12-05-31*

160

0.00

**\*160\***

BENDING MACHINE - SKIDTUBES

CNC Bend 1

Memo

0.00

CNC Delta 100 Bender

Form as per Dwg D3391 Using Bend Prog 3391025

*12/05/31*

170

QC5- Inspect part completeness to step on W/O

0.00

**\*170\***

QC

Memo

0.00

Quality Control

*4.97*

*12-5-31*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Revision ID:

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Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

\*1\*

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

\*1\*

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*  
Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Skidtubes	0.00							
*180*									
Skidtubes	Memo	0.00							
Skidtubes	1-Open Aft cap pilot hole to .208" as per Dwg D3391								
	2-Drill float bag holes using DT8809 as per Dwg D3391(Holes marked "A" Only.								
	3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217 Wearplate Jig . *****Do Not Open To Finished Size*****								
	4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2 previously drilled aft wearplate holes.								
	5-Open wearplate holes to 0.250" and c'bore as per dwg D3391								
	6-Open up all wearshoe , wearplate to 0.297"and float bag holes to 0.328" as per Dwg D3391:								
	7-Deburr								

DC 12/06/11

DC 12/06/19

12/06/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC5- Inspect part completeness to step on W/O	0.00							
<b>*190*</b>									
QC	Memo	0.00		5 17/06/12					
Quality Control									
200	Chemical Conversion Coat per QSI005 4.1	0.00							
<b>*200*</b>									
HandFinish	Memo	0.00							
Hand Finishing									
210	QC7-Inspect Chemical Conversion Coat	0.00							
<b>*210*</b>									
QC	Memo	0.00							
Quality Control									

1 17/06/12

① SAD 12-06-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Item ID: D3391-025

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**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220		0.00							
<b>*220*</b>	Skidtubes								
Skidtubes	<b>Memo</b>	0.00							
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: <u>M120666</u> exp. date: <u>13-1-30</u> cure time 12hrs as per QSI0015								
230	QC5- Inspect part completeness to step on W/O	0.00							
<b>*230*</b>									
QC	<b>Memo</b>	0.00							
Quality Control									
235	Pressure Wash per QSI005 4.3	0.00							
<b>*235*</b>									
HandFinish	<b>Memo</b>	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								

- De 12 / 06 / 22

S.2/06/22

1 12-6-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 84686

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Item ID: D3391-025

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
<b>*240*</b>									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 11:00 OVEN TEMPERATURE: 220 FINISH TIME: 11:30								
250	QC3- Inspect Part Finish	0.00							
<b>*250*</b>									
QC	Memo	0.00							
Quality Control									
260	HandFinishing	0.00							
<b>*260*</b>									
HandFinish	Memo	0.00							
Hand Finishing	1-Install inserts as per Dwg D3391 2-Install Aft Cap as per Dwg D3391 A/ R Sikaflex-241/-291 11/12/1409 Sikaflex expiry date: 13/02 3- INSTALL WEARPLATES AS PER DWG								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 84686

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Item ID: D3391-025

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Aft Tube Assembly

Start Date: 17/05/2012 Start Qty: 1.00

**\*1\***

Cust Item ID:

Required Date: 31/05/2012 Req'd Qty: 1.00

**\*1\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	QC5- Inspect part completeness to step on W/O	0.00							
<b>*270*</b>									
QC	Memo	0.00							
Quality Control									
280	Identify as per dwg & Stock Location: <u>W/O</u>	0.00							
<b>*280*</b>									
Packaging	Memo	0.00							
Packaging									
290	QC21- Final Inspection - Work Order Release	0.00							
<b>*290*</b>									
QC	Memo	0.00							
Quality Control									

8/12/09/03

0417-747-043 / 1305251 x1 8 11/07/12

12/7/4

my 12-07-03

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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**Parent Item Name:** Aft Tube Assembly

**\*D3391-025\***

**Required Qty: 1.00**

IPP Rev: B 06-02-07 ECN773 dwg rev. D EC  
 IPP Rev: C 06-03-28 Update Manuf. Instructions JLM  
 IPP rev: D 07.03.20 revF dwg EC  
 IPP rev: E 07.11.07 rev G dwg ecn 1053p EC verified by: DD  
 IPP Rev: F 07-11-13 ECN 1056 DD verified by: EC  
 IPP Rev: G 08-09-10 revH as per dwg DD verified by: EC IPP Rev: H  
 11.11.14 AS PER REV. I DD verified by: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4095-047		Manufactured	No			260	Each	12.0000	1	1			
<b>*D4095-047*</b> Wearpad Assembly													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP002				12		385498	X1		
				81626				12					
D4095-049		Manufactured	No			260	Each	20.0000	1	1			
<b>*D4095-049*</b> Wearpad Assembly													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP002				20			X1		
				81612				20					
D6014-090		Manufactured	No			100	Each	75.0000	1	1			
<b>*D6014-090*</b> ALUMINUM EXTRUSION													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				75					
				77332				26					
				79742				49					

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

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Work Order ID: 84686

**\*84686\***

Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 17/05/2012

Required Date: 31/05/2012

Start Qty: 1.00

Required Qty: 1.00

D3670-4-200

Manufactured No

230

Each

85.0000

4

4

**\*D3670-4-200\***

SPACER

\*\*

DC 12/06/22

Location

B84504

Loc Qty

Loc Code

LG

40

80360

40

LG001

45

78606

4

81972

41

(4)

D2646

Manufactured No

270

Each

36.0000

1

1

**\*D2646\***

Aft Cap

\*\*

HL 12/06/22

Location

Loc Qty

Loc Code

FP002

36

62678

5

68280

5

70945

1

71070

2

73294

1

73825

2

78018

5

79562

15

B85-143

x1

D3672-1

Manufactured No

270

Each

1,212.000

2

2

**\*D3672-1\***

Phenolic Washer

\*\*

HL 12/06/22

Location

Loc Qty

Loc Code

ST060

1212

72229

4

76277

208

80369

500

83608

500

x2

May-17-12 3:38:50 PM

Shop Packet Print

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# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item: D3391-025

**\*D3391-025\***

Parent Item Name: Aft Tube Assembly

Start Date: 17/05/2012

Required Date: 31/05/2012

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-130

Purchased

No

260

Each

3,287.000

14

14

**\*AI S4-1032-130\***

Insert

\*\*

all 12/06/12

## Location

## Loc Qty

## Loc Code

ST280

205

119084

116

120671

89

ST281

174

120807

36

120837

138

ST282

2908

121269

2908

x 64

ALS4-1032-225

Purchased

No

270

Each

896.0000

8

8

**\*AI S4-1032-225\***

Insert

\*\*

all 12/06/12

## Location

## Loc Qty

## Loc Code

ST281

873

108696

146

110768

62

118386

55

118966

68

121269

542

1110520

x 8

ST282

23

120410

10

120451

13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

May-17-12 3:38:50 PM

Page 4

Work Order ID: 84686

\*84686\*

Parent Item: D3391-025

\*D3391-025\*

Parent Item Name: Aft Tube Assembly

Start Date: 17/05/2012

Required Date: 31/05/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No

270 Each 1,957.000 6 6

\*AN3C4A\*

BOLT

\*\*

yl 17/06/12

## Location

## Loc Qty

## Loc Code

ST350

1957

120187

57

120521

28

120769

38

121205

1000

121556

834

yl

AN3C5A Purchased No

270 Each 1,352.000 4 4

\*AN3C5A\*

Bolt

\*\*

yl 12/06/12

## Location

## Loc Qty

## Loc Code

FP001

7

115835

7

ST350

1345

116419

28

117343

13

117764

7

117872

2

119749

23

120423

28

121068

12

121255

500

121444

232

121708

500

yl

AN960C10L NAS1149C0332 Purchased No

270 Each 0.0000 10 10

\*AN960C10I \* X

washer

yl 122063

\*\*

(y10) yl 12/06/12

May-17-12 3:38:50 PM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	84686
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b>	D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H 1 M	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓		tape	ED-11
3.500	+/-0.010	3.503	✓		vern	CNC-08
88.93	+/-0.030	88.936	✓		tape	ED-11
Ø3.200	+/-0.010	3.199	✓		vern	CNC-08
88.93	+/-0.030	88.936	✓		tape	ED-11
Ø3.750	+/-0.010	3.750	✓		vern	CNC-08
30° x 160° chamfer	+/-0.010	30° x 160	✓		II	

<b>Measured by:</b> HML	<b>Date:</b> 12/05/19
<b>Audited by:</b> ML	<b>Date:</b> 12/05/28

HAAS Section						
1.526	+0.000/-0.030	1.515	—		Vern 11-06	
7.500	+/-0.010	7.500	—		"	
27.750	+/-0.010	27.750	—		M-tape 11-08	
31.750	+/-0.010	31.750	—		"	
35.250	+/-0.010	35.250	—		"	
3.300	+/-0.010	3.308	—		Vern 11-06	
0.200	+/-0.010	.200	—		"	
3.520	+/-0.010	3.530	✓		"	
0.687	+0.010/-0.000	.687	✓		"	
R0.062	+/-0.010	R.063	✓		"	
Ø0.484	+0.005/-0.001	Ø.489	✓		"	

<b>Measured by:</b> ML	<b>Date:</b> 12/05/28
<b>Audited by:</b> Rg	<b>Date:</b> 12-5-29

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	
H	11.06.21	Dimension 44.995 removed	KJ	

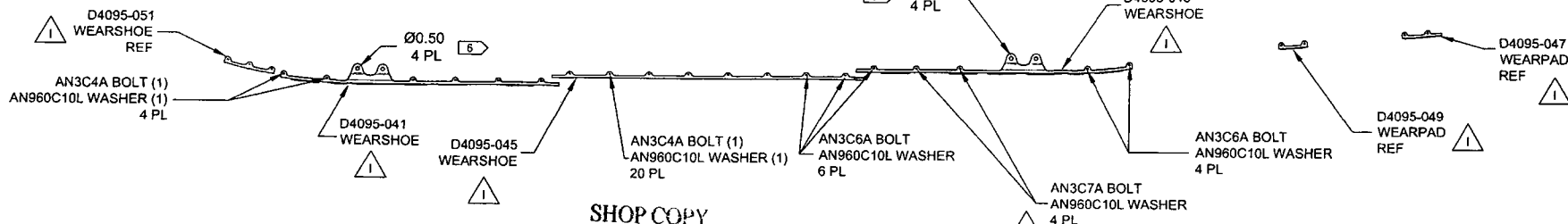
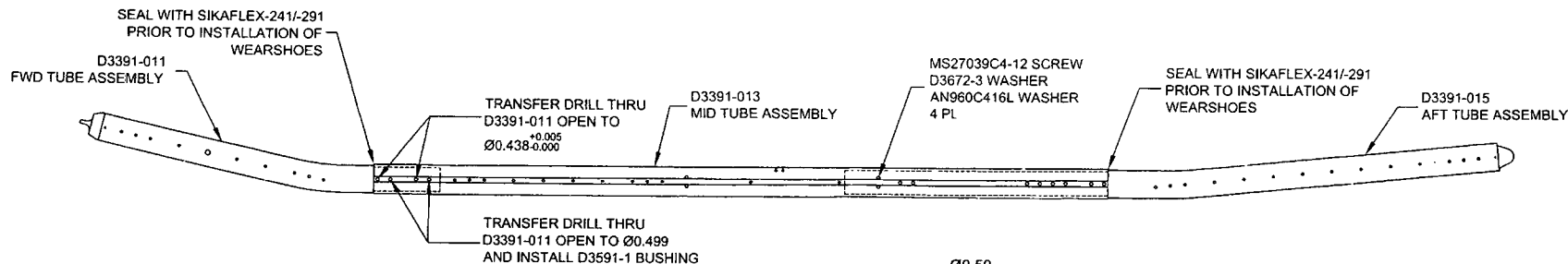
**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



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WORK ORDER

NO. 84686 MLJ  
12/05/17

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2011-11-04  
ECN# H-662

# D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARPAD
1	D4095-049	WEARPAD
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

## GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"  
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL  $\varnothing 0.297$  SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL  $\varnothing 0.50$  HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL  $\varnothing 0.50$  HOLES FROM SADDLE TO D4095-043

I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A6-4, ZN B6-8; LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8; REMOVED HOLES, ZN D6-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 $\varnothing 0.438$ DIM WAS 4 PL. ADDED $\varnothing 0.499$ DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 $\varnothing 0.438$ DIM WAS 4 PL. ADDED $\varnothing 0.499$ DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	06.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	XDF		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.10.13		

**DART AEROSPACE USA, INC**  
KENT, WA

DRAWING NO. D3391  
REV. 1  
SHEET 1 OF 8

TITLE 412 FLOAT SKIDTUBE  
SCALE NTS

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

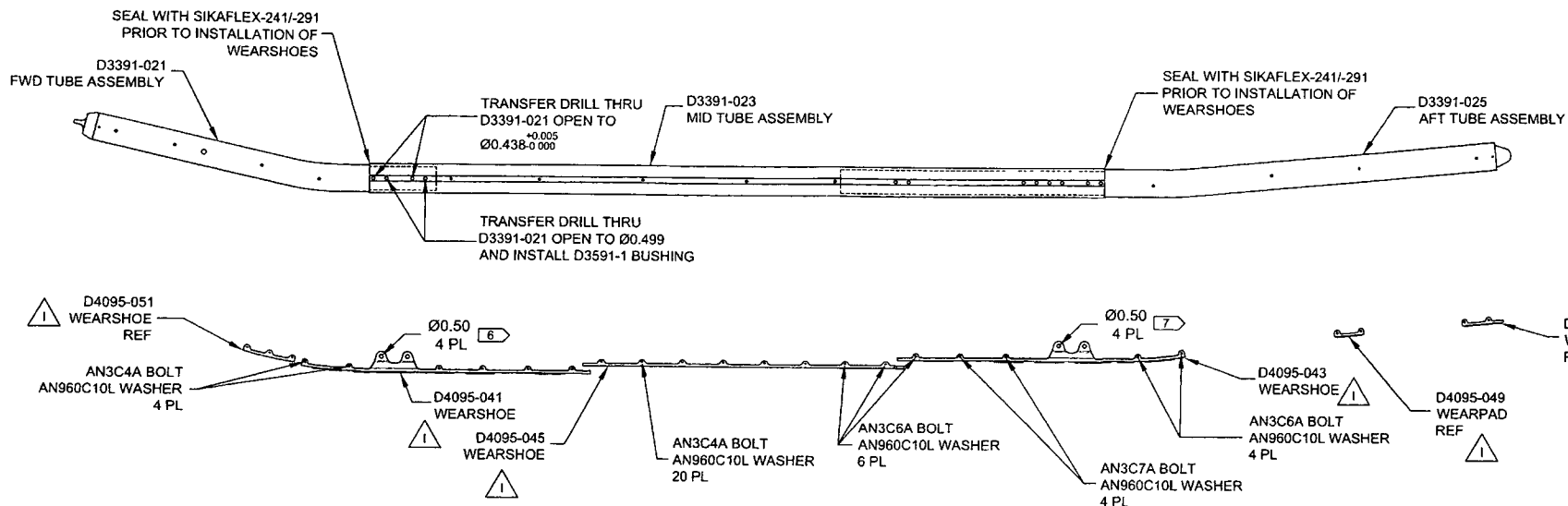
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

04686



#### D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
36	AN960C10L	WASHER

#### GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
- 3) AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 7) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 8) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

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DESIGN	PH	DART AEROSPACE USA, INC
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CHECKED		DRAWING NO. REV. 1
MFG. APPR.		D3391 SHEET 2 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	

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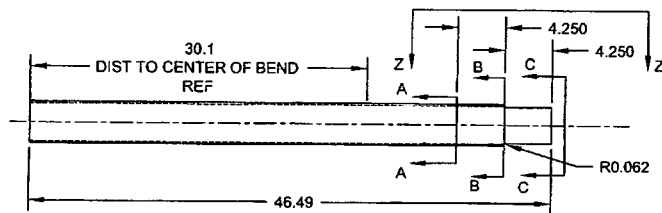
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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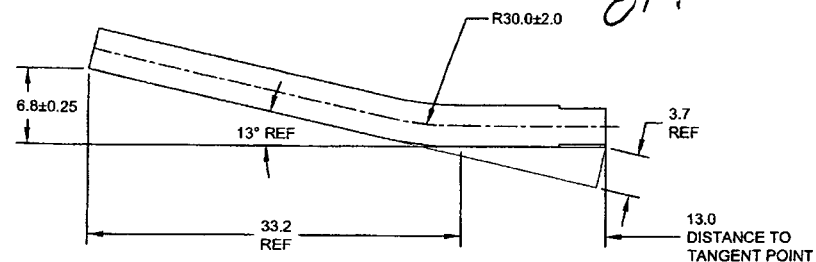
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

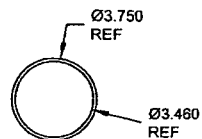
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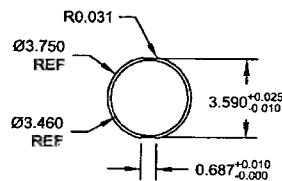
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(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



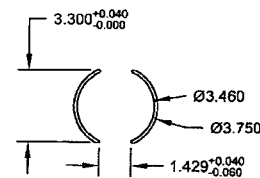
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



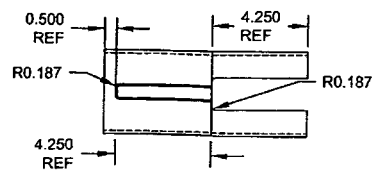
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



**VIEW Z-Z**  
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

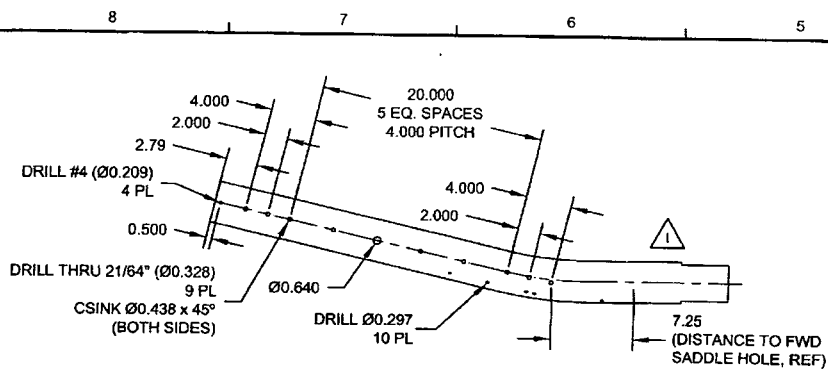
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

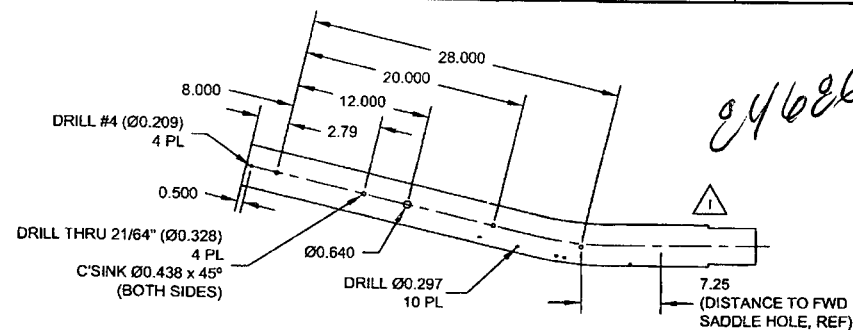
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**NOTE:** Date & initial all entries

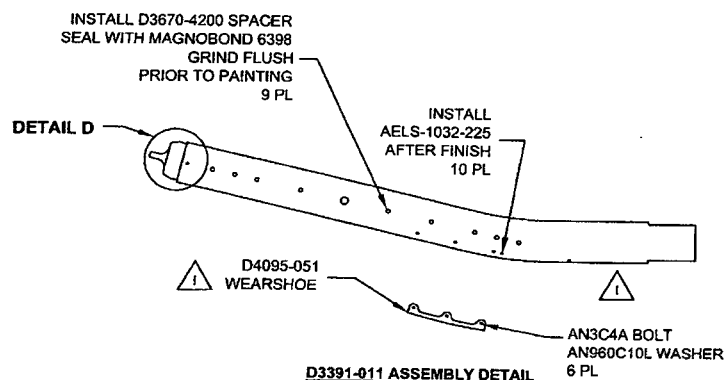




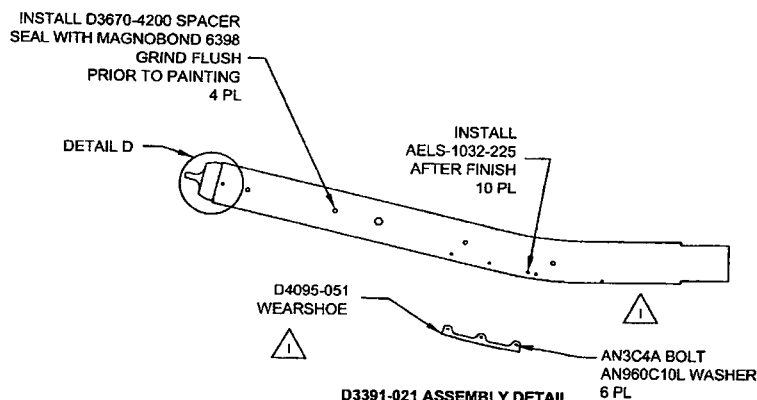
**D3391-011 DRILLING DETAIL**



**D3391-021 DRILLING DETAIL**



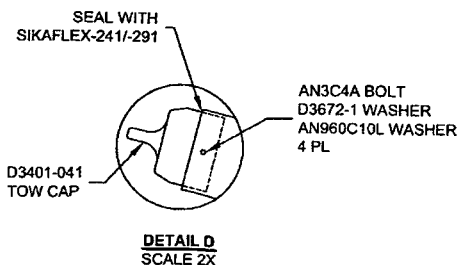
**D3391-011 ASSEMBLY DETAIL**



**D3391-021 ASSEMBLY DETAIL**

**D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST**

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D3401-041	TOW CAP
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
1	1	D4095-051	WEARSHOE
1	1	D6013-047	FWD TUBE
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
10	10	AELS-1032-225	INSERT



**DETAIL D  
SCALE 2X**

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MFG. APPR.		D3391	SHEET 4 OF 8
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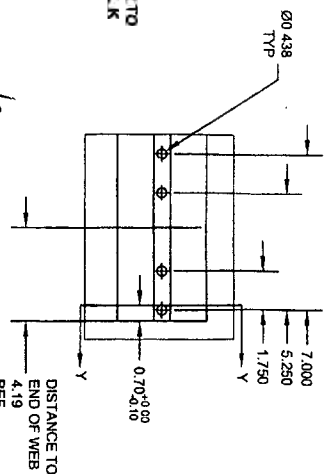
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

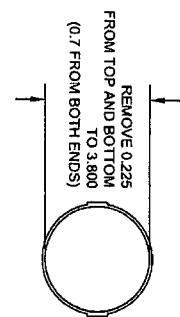
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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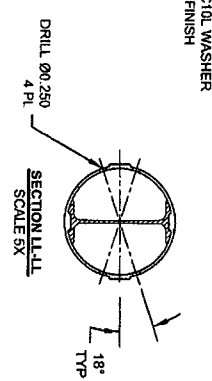
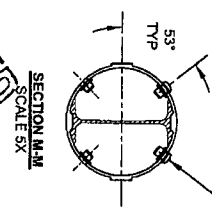
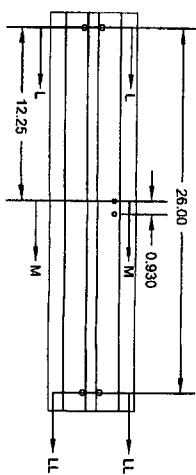


**DETAIL R**  
**SCALE 4X**



**SECTION Y-Y**  
**SCALE 5X**

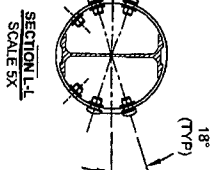
QTY	PART NUMBER	DESCRIPTION
013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24		
	AELS-1023-130	INSERT
4	AUS4428-165	INSERT
4	AN966CTOL	WASHER
4	AN966CTOL	WASHER
4	MS27036CT-09	SCREW
4	MS27036CT-08	SCREW



**SECTION LL-LL**  
**SCALE 5X**

**D3391-013 MID TUBE ASSEMBLY**  
1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION  
2) INSTALL D3389-1 WEE TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015  
3) WELDING: PER DART QSI 004

DRILL Ø0.397  
4428-165 INSERT  
389C4-08 SCREW  
8672-3 WASHER  
CA16L WASHER  
AFTER FINISH  
4 PL



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CHECKED			REV.	
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APPROVED			SCALE	
DATE		11.10.13	TITLE	
			412 FLOAT SKIDTUBE	
			N717	

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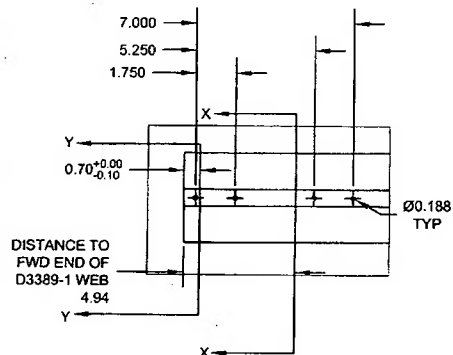
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

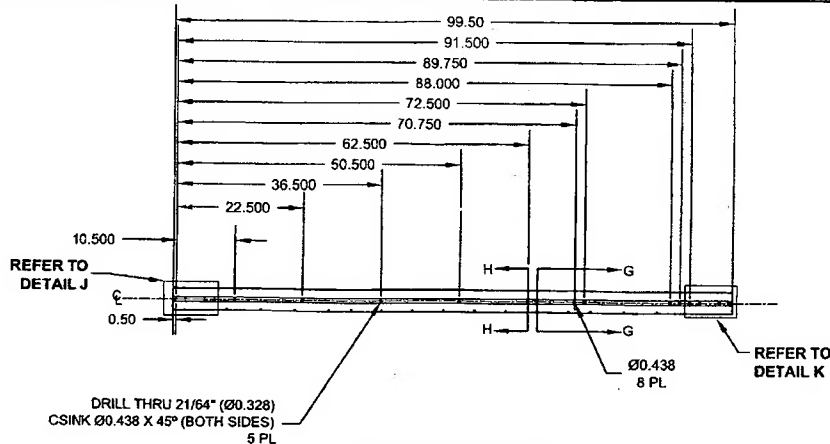
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

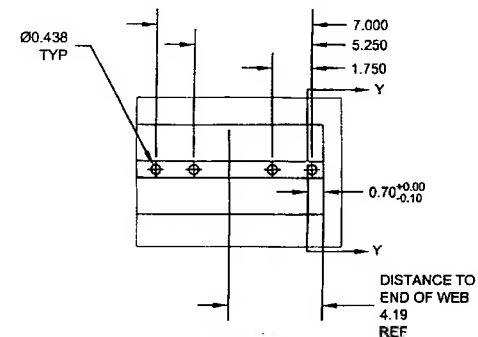
**NOTE:** Date & initial all entries



**DETAIL J**  
SCALE 4X



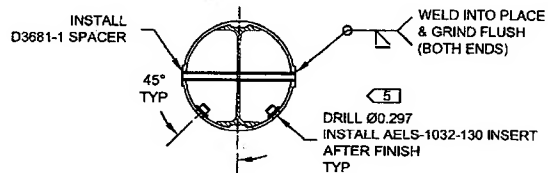
**D3391-023 ASSEMBLY DETAIL**



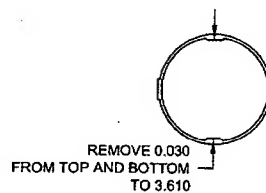
**DETAIL K**  
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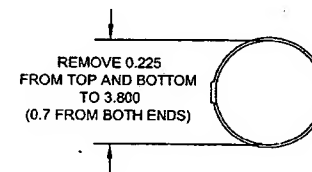
**SECTION G-G**  
SCALE 5X



**SECTION H-H**  
SCALE 5X



**SECTION X-X**  
SCALE 5X



**SECTION Y-Y**  
SCALE 5X

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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2011-11-04

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APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

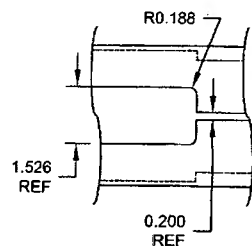
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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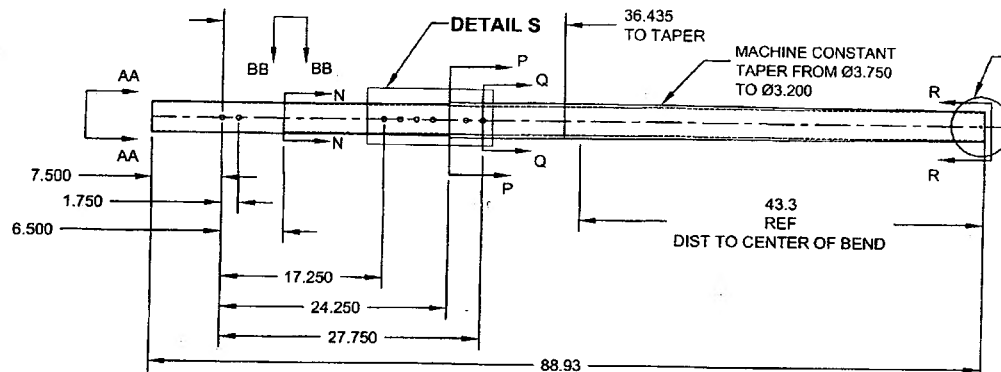
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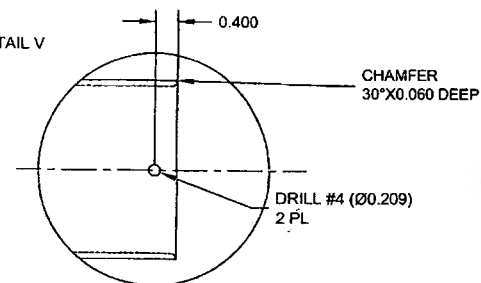
**NOTE:** Date & initial all entries



**VIEW BB-BB**  
SCALE 4X

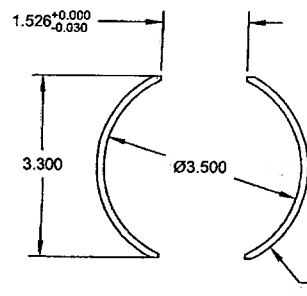


**D3391-3 AFT DRILLING AND CUTTING DETAIL**  
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)

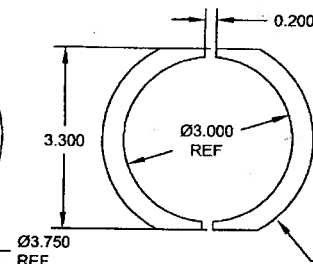


**DETAIL V**  
SCALE 6X

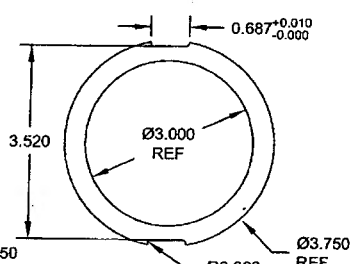
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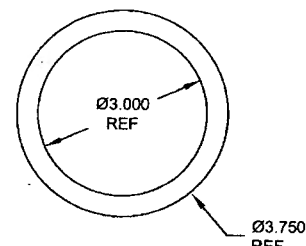
**SECTION AA-AA**  
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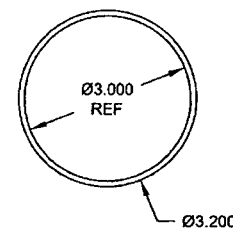
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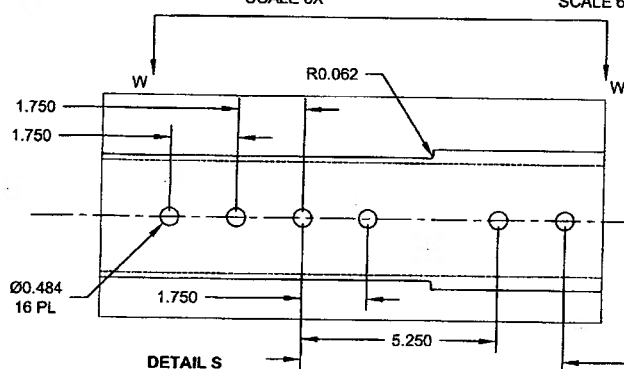
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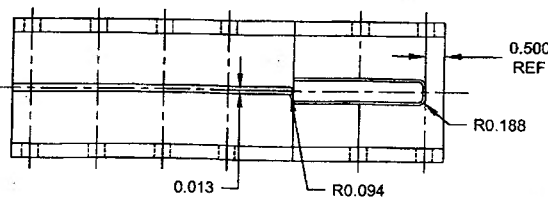
**SECTION Q-Q**  
SCALE 6X



**SECTION R-R**  
SCALE 6X



**DETAIL S**  
SCALE 4X



**VIEW W-W**  
SCALE 4X

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W/O:		WORK ORDER CHANGES					
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries